

# Material: PN L 17 HMF

## Standard Specification for High Temperature Cast Steel

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** PN L 17 HMF High Temperature Cast Steel

**Application:** Intended for Valve, Pump, General Engineering, Automotive and Other Industries

**Grade Belongs to the Industry:** Casting

| Chemical Composition |      |               | Heat Treatment                                    |           |
|----------------------|------|---------------|---|-----------|
| Carbon               | C %  | 0.150 - 0.200 | Normalizing or Annealing or Hardening + Tempering |           |
| Silicon              | Si % | 0.300 - 0.600 |   |           |
| Manganese            | Mn % | 0.500 - 0.800 |   |           |
| Phosphorus           | P %  | 0.030 max.    |   |           |
| Sulphur              | S %  | 0.030 max.    |   |           |
| Chromium             | Cr % | 1.200 - 1.500 |   |           |
| Molybdenum           | Mo % | 0.900 - 1.100 |   |           |
| Vanadium             | V %  | 0.200 - 0.300 |   |           |
| Iron                 | Fe % | Balance       | Mechanical Properties                             |           |
| -                    | -    | -             | Tensile Strength in Mpa                           | 590 - 780 |
| -                    | -    | -             | Yield Strength in Mpa                             | 440 min.  |
| -                    | -    | -             | Elongation in %                                   | 15 min.   |
| -                    | -    | -             | Reduction of Area in %                            | -         |
| -                    | -    | -             | Hardness in HB                                    | 165 - 242 |
| -                    | -    | -             | Impact in Joule                                   | -         |

| Cross Reference Table |          |                |                              |
|-----------------------|----------|----------------|------------------------------|
| Material              | Standard | Country        | Grade Belong to the Industry |
| 422744.0000           | CSN      | Czech Republic | Casting                      |
| 1.7706                | EN       | European Union | Casting                      |
| 1.7706                | DIN      | Germany        | Casting                      |
| G 17 CrMoV 5-10       | AFNOR NF | France         | Casting                      |
| G 17 CrMoV 5-10       | UNI      | Italy          | Casting                      |
| J21610                | UNS      | USA            | Casting                      |
| A356 9                | ASTM     | USA            | Casting                      |

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